# Early Identification of Harmful Algal Blooms: A Case for Citizen Science Monitoring

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Harmful algal blooms (HABs) pose a risk to public health and wildlife conservation. These toxin-bearing cyanobacteria wax and wane in unpredictable ways throughout the year; clear one day and abundant the next. Frequent monitoring is strategic for up-to-date bloom dynamics, but is often resource prohibitive for public agencies.

During the summer of 2018, we piloted a citizen science monitoring program at Deerflat National Wildlife Refuge in Southwest Idaho. This all-hands-on-deck effort leveraged existing resources from a wide array of institutions, including the College of Western Idaho, City of Nampa, EPA, NOAA, IDEQ, and FWS. During the pilot year, we trained and equipped a small group of local volunteers to identify 5 cyanobacteria through both surface water cues and microscopy.

As a result, the Dolichospermum bloom in Lake Cascade and the Aphanizomenon bloom in Lake Lowell were documented by citizens, evaluated by the appropriate water resource professionals, and health advisories were issued. This project successfully empowered individuals in the community to protect their waterways, helped fill the need or frequent monitoring, and provided early identification for the preservation of public health.